Joint Aviation Technical Data Integration Knowledge as a Force Multiplier

By

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The Joint Aviation Technical Data Integration (JATDI) program is the keystone of the joint aviation community's drive to change their business processes by utilizing digital data. Paper-based processes are slow, generate bulky products, and are expensive to operate. JATDI is a web-based system, which accesses digital knowledge from a variety of sources in seconds. The end result is increased knowledge to the warfighter, which facilitates increased combat power at the point of decision.

Data accessible from JATDI includes technical manuals, engineering drawings and associated data, and other maintenance, supply, and readiness data. One of the primarily JATDI advantages is that the data is "fresh."The latest technical manuals are downloaded from a common source and provided to the user in seconds. The paper process to field a new technical manual or formal change often took three to six months and that assumes that the change finally got to the end user. JATDI receives a download of appropriate information on a daily basis and provides it to the user. Three to six months to a few hours - one of the JATDI advantages.

JATDI is not just another data system. It is a highly flexible system designed around commercial off the shelf (COTS) hardware and software that provides the user with a flexible suite of tools to modify to individual specifications while retaining a common system. One of the key elements in JATDI's success is that the location of data is irrelevant. The user accesses the system through the web site and drills down to find the appropriate data. One of the advantages of being COTS based is that JATDI is continually updated to take advantage of the latest technological advances. It is not a static system that is obsolete before it completes deployment.

What does JATDI look like? A notional rotary wing squadron would have:

21 Portable electronic display devices (PEDD)
10 Laptops
10 Desktops
3 Digital Cameras
Wireless communications equipment
Software

Fixed wing squadrons are have the same basic equipment with the amounts varying on the size of the squadron and operational requirements.

An important element of the JATDI process is the conversion of paper or aperture card data to a digital format. In contrast to past "mass conversion" attempts, JATDI focuses on converting only that data which makes sense during the systems remaining life cycle, a process christened

"conversion on demand." This makes sense from a resource allocation and a warfighter standpoint. We focus money on the most critical needs.

JATDI is focused on three core competencies: data conversion, TM server and tech CAM. Access to these competencies is via the World Wide Web icon on a desktop. These competencies are described briefly below.

ICON ON DESKTOP. Utilizes World Wide Web browser technology to provide access to the user to all data required for their business processes. Any hardware and software that can access the internet can utilize the desktop icons via the JATDI homepage.

TECHNICAL DATA CONVERSION (TECH DATA).
Provides the warfighter with electronic access to engineering drawings, technical manuals (TM), and associated data digitally to maintain weapons systems.

TECH CAM. Provides maintainers with a lightweight, two-way audio/visual system, which is linked via local or wide area networks with ETS/industry personnel at a central location. Personnel provide real time assistance to the maintainer to complete the maintenance process and return the system to operational status.

TM SERVER. TM Server provides the warfighter with current TMs and associated data on a near real time basis.

JATDI evolved out of the requirement to convert to a paperless environment and more importantly out of a need to reorient infrastructure resources to direct support of the warfighter. Based on the success of the Army's KAMNET system, the Naval Aviation Systems Command initiated JATDI in late 1998 focusing on two prototype systems. The H-60 was selected because it is a legacy system used by all services, allied nations, and other governmental agencies. The EA-6B was selected because of its designation as a national strategic asset for joint and combined operations. Currently, three EA-6B squadrons and one SH-60 squadron have received JATDI. The initial results are highly encouraging and clearly point to the tremendous impact on readiness JATDI will have as fielding continues. By the end of 2000, the USS Lincoln Battle Group will demonstrate the impact of JATDI on increasing the readiness of the deployed carrier force.

JATDI has also deployed in support of ongoing contingency operations. An U.S. Navy Reserve squadron deployed to Incirlik Turkey found that using JATDI provided a significant advantage. They were able to leave masses of paper at their base and instead took the JATDI laptops and PEDDs to support maintenance efforts. Initial data analysis indicates that maintainers were able to reduce the time required to perform maintenance and increase the overall readiness of the squadron.

JATDI and FMS are natural partners. The tool suite concept allows for each user to tailor what they need to their individual preferences. Utilization of COTS hardware and software reduces cost. Being able to access data globally removes the requirement to build a local data storage facility from the customer. Tailoring required data to the FMS customer's needs also reduces overall cost. Bottom line, JATDI provides a cost effective force multiplier for the FMS customer.

Access to data is restricted by numerous statutory and proprietary security requirements and was a major impediment for the adoption of a JATDI type system. However, The Army H-60 program developed a mirror KAMNET system for its Australian customers outside of the government firewall that meets all their needs. This approach provides one solution, which JATDI could utilize.

JATDI is not just an aviation solution to the flood of paper data. Any system can utilize its tool suite. This is especially attractive to smaller FMS customers who could combine all their data requirements (ground, air, and sea) into a common repository with an associated data management system.

FMS customers are currently evaluating JATDI to determine how they can adopt its flexible concept to meet their defense needs. It also possesses a vast commercial application for numerous industries. From a global perspective, industry and defense establishments are rapidly converting to digital products, the FMS customer who continues to utilize paper/aperture card data will find themselves isolated in an increasing costly environment. This impacts a nation's ability to afford a credible defense and its ability to compete on the world marketplace. The questions is not whether digital data is affordable, but whether you can afford not to.

Should you need assistance in evaluating how JATDI can assist your nation in addressing the digital data quandary in both the defense and commercial realms, contact Ms. Stacy Cummings, (301) 757-9115, to explore how we can work as a team.

About the Author

Ms. Stacy Cummings is a 1994 graduate of Penn State University where she earned a BS degree in Business Logistics. Since graduation she has been assigned to positions of increasing responsibility within the Naval Air Systems Command. She has been the Program Manager for the JATDI program since October 1998.